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COURSE DENSITY AND STUDENT PERCEPTION.
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A STUDY OF COURSE DENSITY AND PACE OF FOREIGN LANGUAGE INSTRUCTION WAS BASED ON DATA OBTAINED FROM THE STAFF MEMBERS AND STUDENTS OF NINE SCHOOLS OFFERING INTENSIVE, SEMI-INTENSIVE, OR NON-INTENSIVE PROGRAMS IN WHICH AUDIOLINGUAL SKILLS WERE STRESSED. THE LANGUAGES CONCERNED WERE CHINESE, RUSSIAN, GERMAN, SPANISH, AND FRENCH. PARTICIPATING SCHOOLS WERE UNIVERSITIES, MILITARY INSTALLATIONS, COMMERCIAL SCHOOLS, A U.S. GOVERNMENT CIVILIAN CENTER, AND A PUBLIC ELEMENTARY SCHOOL. COURSE DENSITY FOR THESE PROGRAMS WAS DETERMINED BY DIVIDING THE TOTAL NUMBER OF WORDS TO BE TAUGHT IN A COURSE BY THE NUMBER OF INSTRUCTIONAL HOURS REQUIRED. THESE WERE CONSIDERED ONLY AS GROSS MEASURES, SINCE THEY DID NOT REFLECT THE DEGREE OF GRAMMATICAL AND PHONOLOGICAL CONTROL TO BE ATTAINED BY THE STUDENTS. STUDENTS WERE ASKED AT TWO TIMES DURING THE COURSE TO RATE THE PACE OF INSTRUCTION. WHILE RESULTS CANNOT BE USED TO PREDICT ACCURATELY THE TIME REQUIRED TO TEACH A GIVEN VOCABULARY, THEY MAY HAVE SOME VALUE AS GUIDELINES IN CURRICULUM PLANNING. ALSO, STUDENT PERCEPTION OF COURSE DENSITY WAS FOUND TO BE FAIRLY ACCURATE. (AM)

Course Density and Student Perception[1/]

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Although currently out of vogue, vocabulary counts constitute a simple indicator of the amount of material to be learned in a foreign language course. For courses of finite duration, the size of vocabulary which is specified in the course objectives defines, in a gross way, the pressure, the pace, load, or density of the particular training effort. To express the density of a particular course quantitatively, one would merely divide the vocabulary size (number of words) in the training objectives by the course duration (number of instructional hours).

Vocabulary size, course duration, and the density ratio derived from them are, all three, gross measures because one cannot infer from them the level of grammatical control produced nor the degree of phonological skills attained by the students. Nevertheless, some implicit interest in these simple measures remains.

One category of questions, to which we address ourselves in this article, is: Does a regular relationship exist between vocabulary size and course duration? If so, what is the shape of the function? Does the mathematical expression of the function have any practical usefulness? A secondary question examined here deals with whether student perception of "course pace" accurately reflects course density?

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Procedure

The data for this article come from a larger project concerned with methodological and attitudinal aspects of foreign language teaching and learning. Information on vocabulary size in course training objectives and number of instructional hours was obtained by systematic personal interviews with staff members at nine schools. The interview question specified active vocabulary, (i.e., that which a student can both comprehend and produce) to avoid any definitional confusion. The sample of schools was as follows:

School	Type of School	Type of Course	Language
A	University	Intensive	Chinese
B	University	Intensive	Russian
C	University	Non-Intensive	German
D	Military Installation	Intensive	Chinese
E	Military Installation	Intensive	Russian
F	Commercial	Semi-Intensive	Spanish
G	Commercial	Semi-Intensive	French
H	U.S. Government (Civilian)	Intensive	French
I	Public Elementary	Non-Intensive	Spanish

Audiolingual skills were emphasized in all these schools. The courses were basic or intermediate in nature. The school sample may be seen to tap the following characteristics: student age, temporal distribution of training, civilian vs. military milieu, and five languages.

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Student perception data were obtained (at two time points) through use of the following questionnaire item:

The general pace of this course is:

(a) much too fast
(b) somewhat too fast
(c) about right
(d) somewhat too slow
(e) much too slow.

This item was one of 57 in a questionnaire. The instrument was first administered to samples of students at six of the above described schools sometime during the first half of their respective courses (median elapsed duration, .25 of the course). The questionnaire was again administered to the same students (minus dropouts, etc.) at four of the schools when 70% or more of the course had elapsed (median = .85). The schools and sample sizes at which student perception data were collected are as follows:

School	First Administration No. of Students	Second Administration No. of Students
A	63	51
B	82	64
D	50	40
E	17	17
F	4	- 2/
G	9	- 2/
Total	225	172

2/ Data not collected.

The measure of student perception of course load used herein is the percent of students responding (a) or (b), (i.e., much or somewhat too fast) to the questionnaire item above.

Results

The data concerning vocabulary size, course duration, and density are presented in Table 1 and Figure 1. To keep these data clear and in context it may be noted that a class meeting three hours per week for an academic year of thirty-two weeks would appear as a 96 hours course, as would an intensive course meeting four hours per day for 24 days. Course density is indicated on Table 1 as the ratio of number of words per instructional hour.

Vocabulary size and course duration do show regular, though not total, covariation. That is to say, longer courses have more ambitious vocabulary size as an objective than shorter courses (r_S 3/ =.73; n=9; p=.016). This covariation is clearly visible in Figure 1.

A least-squares regression equation was calculated for the nine observed points in Figure 1 and indicated thereon. An analysis of variance test for the linearity of regression resulted in F=4.31 with d.f. =3,4; p>.10. Thus, the hypothesis of fit of a rectilinear function to the observed data could not be rejected.

3/ Spearman Rank Correlation Coefficient.

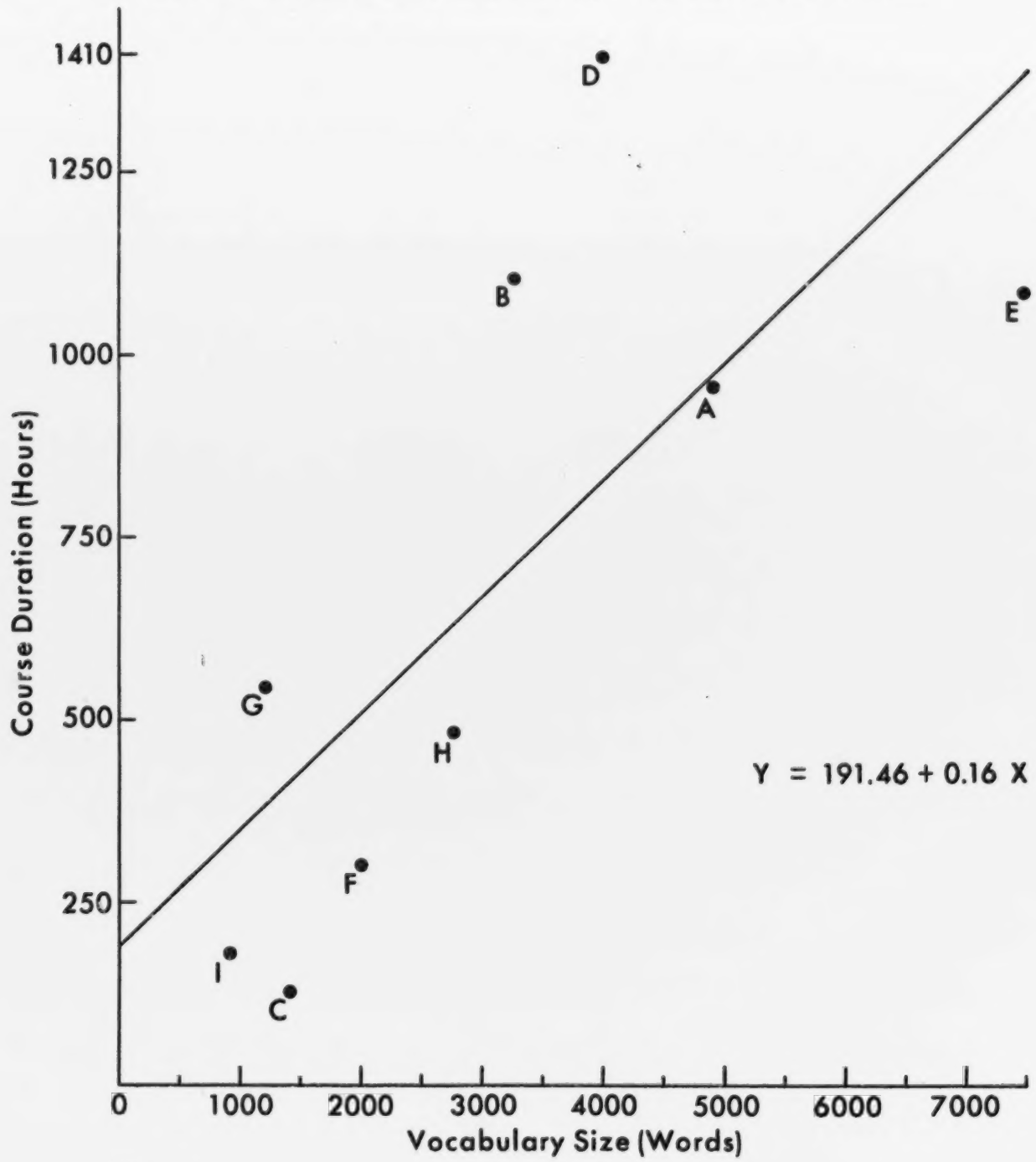
Table 1

Vocabulary Size, Duration, and Density

School	Vocabulary Size in Training Objective (No. of Words)	Course Duration (Number of instruct. hours)	Course Density Words/Hour
E	7500	1080	6.94
A	4900	960	5.10
D	4000	1410	2.84
B	3250	1110	2.93
H	2750	480	5.73
F	2000	300	6.67
C	1400	128	10.94
G	1200	540	2.22
I	900	180	5.00

Figure 1

Course Duration and Vocabulary Size for Nine Schools



The empirical straight-line equation may have some utility in curriculum design and planning, although no underlying psychological or linguistic meaning can be assigned to the constants in the equation. For example, let us say the Peace Corps wants to teach a 2000 word foreign language vocabulary (perhaps emphasizing medical terminology) to a group of public health nurses, what is a reasonable number of instructional hours to allow for such training? Basing an answer on this regression model would give us the following:

$Y = a + bX$ where

$X = 2000$ words

$b = 0.16$

$a = 191.46$

Thus,

$Y = 191.46 + (0.16)\ 2000$

511.46 hours

The above calculations are not to imply that predicted values of Y have any compelling exactitude to them. These data, based on nine schools, result in a rather large standard error of estimate, $s_{y.x}$ (=335.89) such that a time generalization to the population of hypothetical courses aiming at a 2000 word vocabulary might depart quite a bit from the predicted number of instructional hours. The predicted value,however,may serve as a guideline in some situations.

The reverse regression equation, (i.e., to predict vocabulary size from a given number of hours) is also calculable from these data but would appear to be less interesting.

Table 2. Course Density on Student Perception at Two Points in Time

School	Course Density (From Table 1)	Percent of Students Perceiving Course Pace as "Too Fast"	
		Time 1	Time 2
E	6.94	76%	53%
F	6.67	50	- a/
A	5.10	46	53
B	2.93	43	36
D	2.84	34	30
G	2.22	33	- a/

a/ Data Not Collected.

We next turn to whether student perception of "course pace" reflects the respective density ratios. Table 2 provides a clear-cut answer. Early in the course (Time 1) the rank correlation coefficient, r_S, between course density and student response reaches unity. When n=6, the probability of r_S=1.00 under the assumption of no relationship is .0014.

Similarly, late in the course (Time 2) for the four schools where data were collected r_S=.95 (n=4, p=.073). Thus, at two times during a language course, student perception of the pace of the work seems to reflect fairly accurately the course density as here defined.

We have described the regular relationship existing at nine schools between size of vocabulary in course training objectives and duration of courses embodying such objectives. Furthermore, course density, defined as the ratio of vocabulary size to duration, was observed to be fairly objectively perceived by students.

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